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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,557	10/16/2000	John E. Hudson	476-1855.1	3392
7590	12/07/2004		EXAMINER	
William M. Lee, Jr. Lee, Mann, Smith, McWilliams, Sweeney & Ohlson P. O. Box 2786 Chicago, IL 60690-2786			EWART, JAMES D	
			ART UNIT	PAPER NUMBER
			2683	

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/688,557	HUDSON, JOHN E.
	<b>Examiner</b>	<b>Art Unit</b>
	James D Ewart	2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-48 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 1-48 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                              | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ . | 6) <input type="checkbox"/> Other: ____ .                                   |

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1. In view of the Brief on Appeal filed on July 20, 2004, PROSECUTION IS HEREBY REOPENED.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 5–14 are rejected under 35 USC 103(a) as being unpatentable over Kanerva et al (U.S. Patent No. 5,793,744) in view of Rahman (U.S. Patent No. 6,078,817).

Referring to claim 1, Kanerva et al teaches a wireless communications system comprising a terminal capable of communicating with a plurality of simultaneous communications links

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(Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data borne by each of the number of the plurality of simultaneous communications links are non-identical (Column 3, Lines 5-8), but does not teach communicating with a plurality of base stations. Rahman teaches communicating with a plurality of base stations (Column 4, Lines 61-64 and Figure 3). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Rahman of communicating with a plurality of base stations to provide increased capacity (Column 3, Lines 14-15).

Referring to claim 5, Kanerva et al further teaches wherein at least two of the communications links are completely isolated from each other (Figure 6 and Column 10, Lines 54-58).

Referring to claim 6, Kanerva et al further teaches a routing entity capable of dividing the content data between the number of the plurality of communications links so that a proportion of the content data is communicated over a communications link of the number of the plurality of communications links and another proportion of the data is simultaneously communicated over another communications link of the number of the plurality of communications links (Column 3, Lines 5-8 and Figure 6; 61).

Referring to claim 7, Kanerva et al further teaches wherein a source of the content data comprises the routing entity (Column 3, Lines 5-8 and Figure 6; 61).

Referring to claim 8, Kanerva et al further teaches wherein the routing entity is arranged to control routing of virtual circuits so as to cause the proportion of the data to be communicated over the communications link of the number of the plurality of the communications links (Column 3, Lines 5-8 and Figure 6; 61).

Referring to claim 9, Kanerva et al further teaches a controller unit, the controller unit comprising the routing entity (Figure 6; 61).

Referring to claim 10, Kanerva et al further teaches wherein the routing entity is arranged to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links (Column 7, Lines 31-32 and Figure 6 i.e. Ch<sub>1</sub> – Ch<sub>n</sub>).

Referring to claim 11, Kanerva et al further teaches wherein the routing entity is arranged to edit headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links (Column 7, Lines 31-32 and Figure 6 i.e. Ch<sub>1</sub> – Ch<sub>n</sub>).

Referring to claim 12, Kanerva et al further teaches wherein the routing entity is arranged to edit path identifiers of data units so that the proportion of the data is communicated over the communications link of the number of the plurality of communications links (Column 3, Lines 5-8 and Figure 6).

Referring to claim 13, Kanerva et al further teaches further comprising a controller unit, the controller unit being arranged to select the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links (Column 10, Lines 32-33).

Referring to claim 14, Kanerva et al further teaches wherein the controller is arranged to select the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links (Column 9, Lines 42-54).

3. Claims 2-3 are rejected under 35 USC 103(a) as being unpatentable over Kanerva et al and Rahman and further in view of Bi et al (US Patent Pub No. 2002/0036999).

Referring to claim 2, Kanerva et al and Rahman teach the limitations of claim 2, but do not teach wherein at least one of the plurality of base stations supports a plurality of sectors. Bi et al teaches wherein at least one of the plurality of base stations supports a plurality of sectors (0018). Therefore, at the time the invention was made, it would have been obvious to a person

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of ordinary skill in the art to combine the teaching of Kanerva et al and Rahman with the teaching of Bi et al wherein at least one of the plurality of base stations supports a plurality of sectors to provide a smooth transition between service areas (0003).

Referring to claim 3 Bi et al further teaches wherein at least one of the plurality of base stations comprises a sectored antenna (0018)

4. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Kanerva et al and Rahman and further in view of Smith et al (U.S. Patent No. 6,009,124).

Referring to claim 4, Kanerva et al and Rahman teach the limitations of claim 4, but do not teach wherein the terminal comprises an antenna arrangement arranged to direct a sector or beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations. Smith et al teaches wherein the terminal comprises an antenna arrangement arranged to direct a sector or beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations (Column 1, Lines 18-23). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al and Rahman with the teaching of Smith et al wherein the terminal comprises an antenna arrangement arranged to direct a sector or beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations to steer the adapted sectored antenna to hone in on the intended signal (Column 1, Lines 21-23).

5. Claim 15 is rejected under 35 USC 103(a) as being unpatentable over Kanerva et al and further in view of Willars et al (U.S. Patent No. 6,449,290).

Referring to claim 15, Kanerva et al teaches a communications terminal coupled to an antenna arrangement (Figure 6), the antenna arrangement supporting a plurality of simultaneous communications links (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each of the number of the plurality of simultaneous communications links are non-identical (Column 3, Lines 5-8), but does not teach a plurality of modems. Willars et al teaches a plurality of modems (Figure 1; base station). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Willars et al of using a plurality of modems to facilitate communication (Column 2, Lines 6-7). Examiner uses the Willars reference to show the use of a plurality of modems in a connection is known to one of ordinary skill in the art.

6. Claim 16 is rejected under 35 USC 103(a) as being unpatentable over Kanerva et al and Willars et al and further in view of Smith et al.

Referring to claim 16, Kanerva et al and Willars et al teach the limitations of claim 16, but do not teach wherein the terminal comprises a sectored multiple beam antenna arranged to direct an antenna beam to one of the plurality of base stations for providing a near-isolated

communications link to the one of the plurality of base stations. Smith et al teaches wherein the terminal comprises a sectored multiple beam antenna arranged to direct an antenna beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations (Column 1, Lines 18-23). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al and Willars et al with the teaching of Smith et al wherein the terminal comprises a sectored multiple beam antenna arranged to direct an antenna beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations to steer the adapted sectored antenna to hone in on the intended signal (Column 1, Lines 21-23).

7. Claims 17, 19–25, 27-33 and 35-41 are rejected under 35 USC 103(a) as being unpatentable over Kanerva et al in view of Rahman.

Referring to claim 17, Kanerva et al teaches a method of communicating data between a base stations and a terminal, the method comprising the step of: establishing a plurality of respective simultaneous communications links between the base station and the terminal (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each of the number of the plurality of simultaneous communications links are non-identical (Column 3, Lines 5-8), but does not teach communicating with a plurality of base stations. Rahman teaches communicating with a

plurality of base stations (Column 4, Lines 61-64 and Figure 3). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Rahman of communicating with a plurality of base stations to provide increased capacity (Column 3, Lines 14-15).

Referring to claim 25, Kanerva et al teaches computer executable software code stored on a computer readable medium, the code being for communicating data between a base station and a terminal (Figure 6; 61), the code comprising: code to establish a plurality of simultaneous communications links between a base station and the terminal (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical (Column 3, Lines 5-8), but does not teach communicating with a plurality of base stations. Bi et al teaches communicating with a plurality of base stations [0003]. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Bi et al of communicating with a plurality of base stations to provide a smooth transition at handoff [0003].

Referring to claim 33, Kanerva et al teaches a programmed computer for communicating data between a base station and a terminal (Figure 6), comprising memory having at least one region for storing computer executable program code (Figure 6; 61), and a processor for executing the program code stored in memory (Figure 6; 61), wherein the program code

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includes: code to establish a plurality of simultaneous communications links between a base station and the terminal (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical (Column 3, Lines 5-8), but does not teach communicating with a plurality of base stations. Rahman teaches communicating with a plurality of base stations (Column 4, Lines 61-64 and Figure 3). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al with the teaching of Rahman of communicating with a plurality of base stations to provide increased capacity (Column 3, Lines 14-15).

Referring to claim 41, Kanerva et al teaches a computer readable medium having computer executable software code stored thereon, the code being for communicating data between at least one base station and a terminal and comprising (Figure 6; 61): code to establish a plurality of simultaneous communications links between a base station and the terminal (Column 3, Lines 5-8, 61-62; Column 5 Lines 18-24, Column 6, Lines 10-12 and Figure 6), a number of the plurality of simultaneous communications links bearing content data (Column 3, Lines 46-47), wherein the content data born by each of the number of the plurality of simultaneous communications links is non-identical (Column 3, Lines 5-8), but does not teach communicating with a plurality of base stations. Rahman teaches communicating with a plurality of base stations (Column 4, Lines 61-64 and Figure 3). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to

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combine the art of Kanerva et al with the teaching of Rahman of communicating with a plurality of base stations to provide increased capacity (Column 3, Lines 14-15).

Referring to claims 19, 27, 35 and 43 Kanerva et al further teaches the step of: communicating the content data via the number of the plurality of communications links, a proportion of the data being communicated over a communications link of the number of the plurality of communications links and another proportion of the data being simultaneously communicated over another communications link of the number of the plurality of communications links (Column 3, Lines 5-8).

Referring to claims 20, 28, 36 and 44 Kanerva et al further teaches 20 wherein a source of the content data controls routing of virtual circuits so as to cause the proportion of the content data to be communicated over the communications link of the number of the plurality of the communications links (Column 3, Lines 5-8).

Referring to claims 21, 29, 37 and 45 Kanerva et al further teaches the step of: editing headers of data units to contain an address corresponding to the communications link of the number of the plurality of the communications links (Column 7, Lines 31-32 and Figure 6 i.e. Ch<sub>1</sub> – Ch<sub>n</sub>)

Referring to claims 22, 30, 38 and 46 Kanerva et al further teaches the step of: editing path identifiers of data units so that the proportion of the data is communicated over the

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communications link of the number of the plurality of communications links (Column 3, Lines 5-8 and Figure 6).

Referring to claims 23, 31, 39 and 47 Kanerva et al further teaches the step of: selecting the number of the plurality of communications links from the plurality of communications links in response to respective signal quality criteria of the plurality of communications links (Column 10, Lines 32-33).

Referring to claims 24, 32, 40 and 48 Kanerva et al further teaches the step of: selecting the number of the plurality of communications links from the plurality of communications links in response to respective bandwidth availability of the plurality of communications links (Column 9, Lines 42-54).

8. Claims 18, 26, 34, and 42 are rejected under 35 USC 103(a) as being unpatentable over Kanerva et al and Rahman and further in view of Smith et al.

Referring to claim 18, Kanerva et al and Rahman teach the limitations of claim 18, but do not teach the terminal directing a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations. Smith et al teaches directing a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations (Column 1, Lines 18-23). Therefore, at the time the invention was made, it would have been obvious to a person

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of ordinary skill in the art to combine the art of Kanerva et al and Rahman with the teaching of Smith et al wherein the terminal directs a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations to steer the adapted sectored antenna to hone in on the intended signal (Column 1, Lines 21-23).

Referring to claims 26, 34 and 42, Kanerva et al and Rahman teach the limitations of claim 26, but do not teach wherein the terminal comprises a sectored multiple beam antenna, and the code further comprises: code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations. Smith et al teaches wherein the terminal comprises a sectored multiple beam antenna, and the code further comprises: code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations (Column 1, Lines 18-23). Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the art of Kanerva et al and Rahman with the teaching of Smith et al wherein the terminal comprises a sectored multiple beam antenna, and the code further comprises: code to direct a sector or a beam to one of the plurality of base stations for providing a near-isolated communications link to the one of the plurality of base stations to steer the adapted sectored antenna to hone in on the intended signal (Column 1, Lines 21-23).

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D Ewart whose telephone number is (703) 305-4826. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (703)308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

  
Ewart  
December 2, 2004

  
WILLIAM TROST  
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